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ABSTRACT

A central problem in the area of research on the family is that of the relative inability of researchers to empirically test current theoretical models. Any theory regarding the influence of family characteristics and interaction patterns on developmental processes ought to provide for the confirmability of constructs and the replicability of associated effects. Both of these qualities are nearly absent from the activities of family researchers today. By Kuhn's (1962) standards, research on family processes is in the pre-scientific stage and may require certain methodological advances to overcome present problems. A sequence of methodological options that may be used to develop the kind of paradigm(s) that are appropriate for research on family processes includes (1) structuring a research situation to observe parent-child interaction years after intervention at an early age; (2) developing measures; (3) coding; (4) establishing reliability; (5) quantifying multivariate patterns of behavior; (6) treating patterns of behavior as dependent variables to examine the influence of treatment and demographic factors separately; and (7) using interaction patterns as independent variables in accounting for variability in numerous individual outcomes exhibited by the child. In general, researchers need to converge their efforts on utilizing common methods to test significant aspects of family process models. (Author/RH)

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PROBLEMS AND DIRECTIONS IN FAMILY INTERACTION RESEARCH

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Abstract

The author argues that a central problem in the area of research on the family concerns our relative inability to test empirically current theoretical models. A theory regarding the influence of family characteristics and interaction patterns on developmental processes requires confirmability of constructs and replicability of associated effects. Both of these qualities are practically non-existing in the activities of family researchers today. The usefulness and fruitfulness of current theoretical models rests on the development of research paradigms that can be widely used to test their explanatory value and consistency. This field is still in the pre-scientific stage by Kuhn's (1962) standards and may require certain methodological advances to overcome this problem. The rest of the paper describes a series of methodological options that may be used to develop the kind of paradigm(s) for research on actual familial processes. It is suggested that researchers in this area need to converge their efforts on utilizing common methods to test significant aspects of family process models.

Overview

One of the central problems confronting researchers in the

area of family processes centers around the specification of functions that underlie or influence a number of individual outcomes. For example, we typically ask what kinds of interaction patterns in the family appear associated with a creative or a maladjusted child? Over the last three to four decades, efforts to characterize family environments have resulted in a number of interrelated dimensions being identified with respect to child-rearing, teaching, reinforcement styles along with demographic factors. A perusal of the family process literature shows a multiplicity of assessment schemes and instruments that are rarely used by the research community as a whole, mainly because of validation problems. These efforts, however, have been limited in scope and provide basically very general descriptions of family functioning. Only after such global descriptions have been forwarded do we find discussions about how individual outcomes may be affected by particular patterns of family functioning. In short, our approach to the study of family processes has tended to be descriptive rather than predictive. Where certain relations have been established between family interaction patterns and individual outcomes, they have been examined on a post hoc basis for the most part.

The purpose of this paper is to identify some of the methodological problems in the field today that have curtailed its development from a theoretical standpoint. At the same time, several suggestions for improvement are presented to stimulate an exchange of ideas that will hopefully prove beneficial to the field, along with a research illustration.

Increased research interest has been mounting with regard to the study of family processes since the pioneering efforts of Baldwin (1948;197) and others. Family environments have attracted interest in their influence on individuals' socio-emotional and intellectual development. Although we know, for example, that the family environment accounts for considerably more variance in children's academic and social performance than schools, it has been difficult to identify (actual) patterns of family functioning and the extent to which they directly influence children.

Traditionally, research in this area has focused on family structure and demographic characteristics, (e.g. birth order and family size, parental education, number of books and family status variables, as well as self-reports on childrearing etc). Even at this general level of analysis, important findings result and hint at underlying family interactive processes,(e.g., childrearing and reinforcement patterns and their effects on children's development). As a result, various correlations between structural/demographic characteristics of families and children's developmental outcomes(in terms of achievement, psychological health, and personality) are commonly interpreted by alluding to interactive processes.

Yet, we seldom attempt to assess the influence of these processes on child outcomes directly or interactively. Rarely do we study actual processes^o as they occur in the home. Rather, we continue to rely on self-report instruments and interviews to gain insights into family processes that are seldom verified. The amount of error in measurement resulting from this practice can

easily contribute to erroneous conclusions and reluctance to alter family patterns of interaction. The problem could be lessened if we could sample actual family behavior, even in quasi-natural settings, and relate it to self-reports.

Most of us are aware of the difficulties with process research. Difficulties range all the way from the artificiality of the experimental situation to the quantification of interactive patterns. Self-selected samples are commonly a necessity.

Even when assessments of family interaction patterns are achieved (e.g., Bloom, Mischler and Waxler, Haley, Framo and others), their influence on childrens' socio-emotional and cognitive outcomes remain tenuous and difficult to establish empirically.

At present, very little research data and programs seem focused on assessing family processes directly in relation to individual outcomes.

Part of the problem lies in the complexity involved in measuring interactive processes involving more than one individual, and the expense and time involved.

This often leads to limitations in sample size, which compromises how "publishable" these efforts and data are under current conditions. Hence, few are encouraged to pursue work in this area. Finally, process research lacks standardized methods and strategies. That makes comparisons across studies very difficult and rare. For example, current research on the effects of divorce on children (Wallerstein/Guidibaldi) point to processes but they lack empirical validation. At present, it is hard to find replication efforts among researchers in this area. This is a field

that appears to have not advanced significantly since the work of Hess and Shipman, both from a methodological and theoretical perspective. In effect, the main problems facing researchers in this area include achieving some consistency and agreement in terms of what aspects of family functioning are to be examined in relation to theoretically relevant questions. Those questions center around the degree to which environmental processes influence individual development. To address such questions, we need to study family systems that are comparable in terms of background factors and in semi-structured situations that can be replicated. The issue of ecological validity is not totally insurmountable and need not desist programatic research.

Secondly, once certain familial processes are linked to individual outcomes, efforts to quantify interactive processes become critical in ascertaining the extent of their influence (R) and for replication. Thirdly, researchers in this area require support for establishing longitudinal designs in testing and developing theory which are mandatory in conducting meaningful research.

Without belaboring these points any further, I would like to describe briefly some research to illustrate a series of steps in conducting family process research. Although the research example to be presented is far from ideal, it nevertheless suggests a sequence that may be useful to consider for those beginning in this area. Those steps range, in the present case, from structuring a research situation to observe parent-child interaction years after an early age intervention to developing measures, coding, establishing reliability and quantifying multi-

variate pattern(s) of behavior. Those pattern(s) of behavior, in turn, can be treated as dependent variables once factor scores were derived to examine the influence of treatment and demographic factors separately under the general linear model. Finally, interaction pattern(s) can be used as independent variables in accounting for variability in a number of individual (child) outcomes. It is this sequence of steps that may prove useful in advancing our state of knowledge in the field since state of the art research still is subject to numerous limitations. While many of such limitations may be overcome in the future, it is equally important to set methodological directions and research paradigms for both theory development as well as for practical applications.

RESEARCH EXAMPLE

A longitudinal follow-up of participants in an early age intervention was conducted ten years after treatment to examine the potential effects of intervention on family processes and to determine if the latter were associated with the child's intellectual performance. A low income group similar to the experimentals and a middle income group that were identified as controls during the original intervention were also included in the study. Attrition was about 30% across groups. Seven hypothetical situations were presented to children (age 12) and their mothers to examine interactive behavior at home. The situations dealt with typical issues pertinent to this age group such as what would happen in the family if a) the child reported getting a good grade at school b) wanted to go out on a date, c) if a

family outing was cancelled due to chores not being completed, etc. Dyads were encouraged to discuss each situation after reading them outloud together. The data was taped, transcribed and scored according to eighteen behavior categories by three trained raters. Achievement scores were also collected at this time.

DATA REDUCTION

Nine process measures were retained for further analysis after a principal components factor analysis was conducted on the basis of inter-rater reliability, base rates, factor structure and bivariate correlation with variables of interest (achievement tests). The subsequent factor analysis produced one general factor which reflected a participatory style of interaction and accounted for 65% of the variance.

DESCRIPTION

The PSI factor reflected an interaction style where both mother and child participated actively, interrupted each other and lenient childrearing practices were reported. The next question was to determine if experimental families differed from the controls in this style of interaction to assess the effect of earlier intervention.

FAMILY PROCESS AS A DEPENDENT VARIABLE

Factor scores were derived for each dyad and analyzed in a three-way Anova to examine the effect of intervention, SES and culture. Experimental families were significantly more participatory than controls but both low income groups were lower in PSI scores than the middle SES group.

FAMILY PROCESS AS AN INDEPENDENT VARIABLE

Next, the relation between PSI as an index of one aspect of the

family environment and achievement was explored in the context of the marker variables SES and ethnicity. The correlation between PSI and school achievement was .48, about the same as SES (.50). A multiple regression analysis was used to examine the contribution of PSI in predicting achievement before and after the demographic variables were entered into the prediction equation. This was an exploratory step aimed at comparing the explanatory power of one index of family process with the more traditional static measures. The results showed that PSI accounted for over half of the variance attributed to SES and reduced the variance accounted for by ethnicity to insignificance. However, PSI remained collinear with those predictors of overall achievement.

In sum, a small, limited sample of PCI behavior or style in the home was quantified and found to be a valuable measure from both a theoretical and practical standpoint. However, these results were not totally a function of ad hoc serendipity and it is with this that I would like to conclude.

When trying to assess the relation between global family processes and a pre-specified outcome pattern (of individual states or behavior), it seems useful to consider the following:

- i) to structure the interaction to be assessed around theoretically-based situations or tasks capable of eliciting relevant behavior (e.g. select subjects that are high, medium and low on achievement or adjustment scores)
- ii) select a number and variety of measures that have internal consistency conceptually and a high degree of relevance to criterion variables (e.g. adjustment, self-concept, achievement).

iii) once a set of process measures are developed and reliably coded and scored, data reduction can be undertaken.

iv) However, at this point it appears ideal to filter out those measures that covary with criterion measures.

For example, if the outcomes measures involve the child's adjustment or intellectual development, measures of these should be collected ahead of time. If these measures are based on a sample with a normal or wide distribution, then,

a) A discriminant analysis can be used to identify process measures that differentiate between high and low groups when criterion measures are nominal or ordinal

b) correlations between the criterion measures and individual process measures can be found this way or through regression if the criterion measures are interval when selecting a final set of process variables.

The preceding stage serves as a pre-selection phase in determining a subset of process measures that will constitute factors or patterns. Once these are chosen, then factor analysis can be employed to explore differentiated patterns or styles of interaction.

The number of subjects per measure ratio thus becomes more feasible for analysis, (5 to 1). More importantly perhaps, the pattern of interaction reflected by each factor can be measured at the interval level via derived factor scores. That score reflects how much a dyad or family is like or unlike that factor or style of interaction. At this point then, the factor(s) can be used as predictors or independent variables in estimating the importance of criterion or dependent measures of interest.

Here is where I believe we can improve in establishing the basis for comparing family processes from one study to the next(i.e. establishing a numerical relationship with other constructs and instruments). Another option, if the level of measurement of the criterion variable is dichotomous or categorical is to use discriminant scores as measures of interactive patterns in the family. That is, various discriminant functions can be obtained that correspond roughly to factors, each having a derived, Z score. However, the problem here is that the number of discriminant functions, which correspond to separate patterns of interaction depend on the number of groups or levels of the criterion measure.

For example, if one wanted to examine the family processes associated with each of Marcia's four levels of identity status, only three discriminant functions or patterns of interaction are possible to consider regardless of the number of subjects or measures being considered. Whether factor or discriminant scores are used to index family processes, care should be given to outliers before this point.

In sum, I have attempted to delineate some general guidelines for pursuing family process research within the inherent limitations at this stage of development. As can be seen, a sequence of steps in the data analyses appears useful in determining general patterns of family behavior. Once patterns of interaction can be studied more directly, and their contribution or (R^2) in understanding and predicting individual outcomes can be estimated, more and better research in this theoretically important field

can be generated.

Finally, I believe that ideally we should try to gather information about family functioning through more than one observation to reduce the potential artificiality of the data. Such a strategy results in higher base rates for measures, something which increases their stability and improves reliability. It may be that once research into family processes improves by advancements in theory and methods, the number and types of family interaction patterns that covary, if not influence individual outcomes, will become discernable.

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